



# TNRCC REGULATORY GUIDANCE

Petroleum Storage Tank Division

RG-17

October 1996

## SUBJECT: **Action Levels for LPST Sites**

### INTRODUCTION

This document provides guidance for determining when to consider a confirmed release as a Leaking Petroleum Storage Tank (LPST) case. The term **RELEASE** is defined in 30 TAC §334.2 as “any spilling including overfills, leaking, emitting, discharging, escaping, leaching, or disposing from an underground storage tank into groundwater, surface water, or subsurface soils.” Therefore, a release is considered to have occurred when any amount of contamination is detected using quantitative analytical methods on soil or water samples, or when non-aqueous phase liquid (NAPL) is present. The release must be reported to the local TNRCC regional office within 24 hours of confirmation. Samples should be analyzed using the analytical methods specified in the TNRCC publication, *Soil and Groundwater Sampling and Analysis* (RG-14).

### ACTION LEVELS

The presence of contamination does not necessarily mean that corrective action is necessary. To determine the need for additional corrective action (which includes assessment and/or remediation), compare the contaminant levels to the action levels listed in the “Action Levels and Screening Levels” table on page 2. The term **ACTION LEVEL** indicates the concentration of constituents in the native soil or water at which some level of corrective action will be required. **These action levels are not used as cleanup levels;** they are simply levels that signal LPST case designation and the need for additional site evaluation. In general, except when NAPL is present in the tankhold, constituent levels in native soils and groundwater must exceed any of the listed action levels for the release incident to be considered an LPST case. Based on actual site conditions, professional judgement should be used to determine the appropriate application of these levels.

When analytical results obtained from tank removal-from-service or other release determination information indicates that the constituent levels in the native soils and/or water exceed any of the action levels, the release will be considered an LPST case and an LPST ID number will be assigned. When the benzene, ethylbenzene, toluene, and xylenes (BTEX) components are less than the action levels and only the total petroleum hydrocarbon (TPH) level exceeds the TPH screening level, the sample with the highest TPH level should be analyzed for polynuclear aromatic hydrocarbons (PAH) as listed below (remember that PAH analyses have a 14-day holding time). The results should then be compared to the action levels. If the PAH levels (and the BTEX concentrations) do not exceed the action levels, the site will not be considered an LPST site.

ACTION LEVELS AND SCREENING LEVELS			
CONSTITUENTS	SOIL ACTION LEVELS (mg/kg)		GROUNDWATER ACTION LEVELS (mg/L)
	Fine-Grained Soil*	Coarse-Grained Soil*	
Benzene	0.50	0.50	0.005
Ethylbenzene	70	10	0.70
Toluene	100	20	1.0
Total xylenes	560	70	10
Acenaphthene	314	314	0.010
Anthracene	13	13	0.010
Benzo(a)anthracene	0.877	0.877	0.010
Benzo(b)fluoranthene	0.877	0.877	0.010
Benzo(k)fluoranthene	8.77	8.77	0.010
Benzo(a)pyrene	0.0877	0.0877	0.010
Chrysene	7.2	7.2	0.010
Dibenz(a,h)anthracene	0.0877	0.0877	0.010
Fluoranthene	156	156	0.010
Fluorene	247	247	0.010
Indeno(1,2,3-cd)pyrene	0.877	0.877	0.010
Naphthalene	389	389	0.010
Pyrene	99	99	0.010
SCREENING LEVELS			
Total petroleum hydrocarbons (TPH) for middle distillate releases**	500	500	5
Total petroleum hydrocarbons (TPH) for gasoline releases**	100	100	5

\* Apply the fine-grained soil standard to sites dominated with clays and silts. Apply the coarse-grained soil standards to sites dominated with sands, gravels, and rock units.

\*\* Apply the middle distillate TPH standard to diesel, kerosene, jet fuel, hydraulic oil, and used oil releases. Apply the gasoline standard to gasoline and aviation gasoline releases. At sites where both gasoline and middle distillate releases have occurred in the same area or tank hold, the gasoline standard will apply.

The listed action levels do not apply and the site should be listed as an LPST site when:

- surface water is known or suspected to be impacted by the release;
- a water well or surface water intake is impacted or threatened;
- buildings or utilities are impacted with vapors;
- nuisance conditions such as odors, or water supply discoloration or taste degradation exist; or
- NAPL is present in the tankhold or in the native soil or groundwater.

Tank owners should complete and submit the *Release Determination Report* (RDR) form (TNRCC-0621) within 20 days from the date of release confirmation. Typically, the next step will be to conduct a risk-based assessment to determine the degree of contamination present, except in cases with minor soil contamination as described below in the *Second Set of Confirmation Samples* section of this document. A proposal for a risk-based assessment (or other appropriate activities) should be submitted with the RDR form.

## SECOND SET OF CONFIRMATION SAMPLES

In situations where the release is discovered during a tank removal-from-service activity and analytical results indicate that the contaminant levels only slightly exceed the action levels, even though the site is considered an LPST site (indicate as such on the RDR form), a risk-based assessment may not be warranted. Instead, the tank owner or operator may be allowed, with approval from the appropriate TNRCC regional office staff, to conduct additional investigative steps by collecting a second set of verification samples. This option is available only when:

- The tank removal-from-service activities have just been completed and the tankhold and piping chases have not been filled. The second set of samples must be collected immediately after the results of the initial sampling are received when the sampling locations are easily accessible. However, the tankhold and piping chases must not be left open if they pose a safety hazard in any way;
- No more than two of the native soil samples collected for release determination purposes during a tank removal from service activity exceed action levels. This includes samples collected from the piping chases and from under the dispenser islands as well as samples from the tankhold;
- Verification samples are collected at a location a maximum of five feet vertically (or horizontally if only lateral migration has occurred) from the initial sampling points;
- Groundwater is not present in the excavation;
- Groundwater or surface water is not impacted or threatened;
- There is no indication that the release poses a threat to the public, and the extent (degree of spreading) of the contaminant is minimal;
- Non-aqueous phase liquid (NAPL) is not present in the excavation;
- The tank removal was not initiated in response to a documented impact to a sensitive receptor (water supply well, subsurface utility, spring, etc); and
- The case is not an apparent Priority 1, 2 or 3 (1.1 through 3.5) as described in the *Assessment Report* form (TNRCC-0562).

If all the above conditions are met and the results of this second confirmation sampling indicate contaminant levels are below action levels, the site may be closed.

If you have additional questions, contact the Petroleum Storage Tank Division staff at (512) 239-2200.